

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P232013

Luminaire Tested: **FVS4M-4-LD4-35-2HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P232013
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-121-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS4M-4-LD4-35-2HI-PA187-UNV-EDC1
Description: FAILSAFE FVS LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH PA187 LENS
Light Source: (168) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

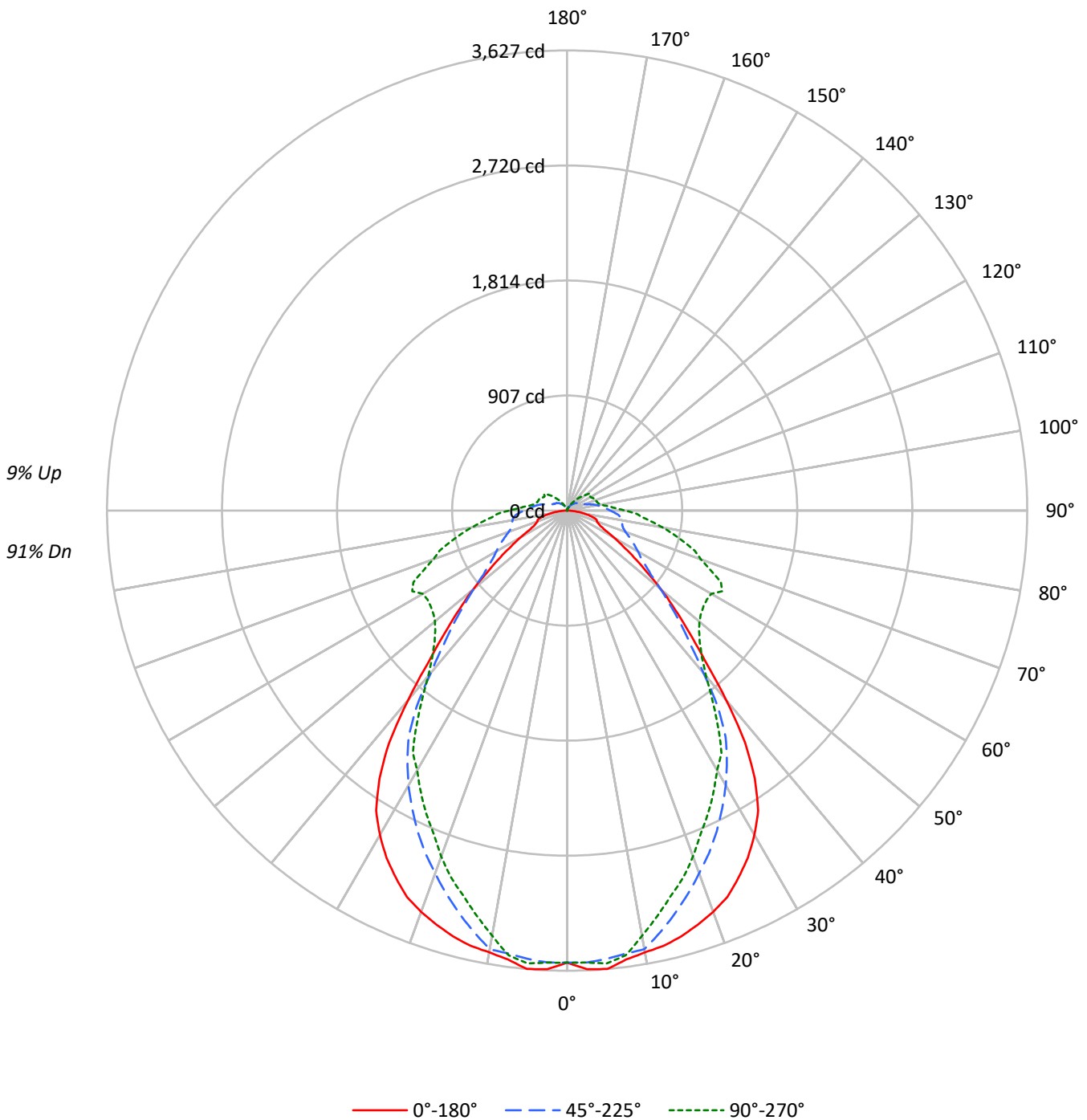
Lumens per Lamp: N/A
Luminaire Lumens: 8259.0 lumens
Efficiency: N/A
Efficacy: 92.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.02 / 1.12
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')
CIE Type: Direct

Input Watts (W): 89.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

TEST NUMBER: P232013

CATALOG NUMBER: FVS4M-4-LD4-35-2HI-PA187-UNV-EDC1

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	94	94	94	94	94	94	91		
1	106	101	96	92	102	98	94	90	92	89	85	86	84	81	81	79	77	77	77	77	77	77	77	75		
2	97	89	82	76	93	86	80	74	81	76	71	76	72	68	72	69	66	66	66	66	66	66	66	63		
3	89	79	71	64	86	76	69	63	72	66	61	68	63	59	64	60	57	57	57	57	57	57	57	54		
4	82	70	62	55	79	68	61	55	65	58	53	61	56	51	58	54	50	50	50	50	50	50	50	47		
5	76	64	55	49	73	62	54	48	59	52	47	56	50	45	53	48	44	44	44	44	44	44	44	42		
6	70	58	49	43	68	56	48	43	54	47	42	51	45	40	49	44	39	39	39	39	39	39	39	37		
7	66	53	44	39	63	52	44	38	49	42	37	47	41	36	45	40	36	36	36	36	36	36	36	34		
8	61	49	40	35	59	48	40	35	45	39	34	44	38	33	42	36	32	32	32	32	32	32	32	30		
9	58	45	37	32	56	44	37	31	42	36	31	40	35	30	39	34	30	30	30	30	30	30	30	28		
10	54	42	34	29	53	41	34	29	39	33	28	38	32	28	36	31	27	27	27	27	27	27	27	26		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	32366	32366	32366
5°	32928	31106	31039
10°	32330	29951	28388
15°	32250	27521	25499
20°	31963	25199	23019
25°	31295	23027	20602
30°	30107	20729	18408
35°	27638	18272	16178
40°	22181	14309	13433
45°	16659	11178	11872
50°	12902	8758	11198
55°	9543	7202	11197
60°	7169	6528	11687
65°	5659	6105	12561
70°	5823	5745	11229
75°	6451	5820	10315
80°	5409	6347	9064
85°	3916	6754	7880



TEST NUMBER: P232013

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	339.0	4.1
10°-20°	931.9	11.3
20°-30°	1305.5	15.8
30°-40°	1376.1	16.7
40°-50°	1045.2	12.7
50°-60°	789.5	9.6
60°-70°	731.7	8.9
70°-80°	590.2	7.1
80°-90°	396.1	4.8
90°-100°	244.9	3.0
100°-110°	172.1	2.1
110°-120°	130.0	1.6
120°-130°	99.8	1.2
130°-140°	61.3	0.7
140°-150°	31.4	0.4
150°-160°	11.8	0.1
160°-170°	2.4	0.0
170°-180°	0.0	0.0
0°-30°	2576.3	31.2
0°-40°	3952.5	47.9
0°-60°	5787.2	70.1
0°-90°	7505.3	90.9
90°-120°	547.0	6.6
90°-150°	739.5	9.0
90°-180°	754.0	9.1
0°-180°	8259.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3563	3563	3563	3563	3563	
5°	3627	3595	3548	3579	3582	342
15°	3475	3463	3286	3205	3147	980
25°	3194	2984	2789	2678	2630	1468
35°	2578	2350	2178	2074	2072	1579
45°	1361	1315	1270	1337	1478	1070
55°	645	668	753	1064	1313	589
65°	291	410	564	1180	1336	306
75°	218	238	450	944	952	220
85°	59	133	405	584	594	65
90°	3	78	340	466	455	5
95°	2	72	283	354	340	2
105°	2	68	191	265	247	2
115°	2	61	121	220	228	2
125°	2	51	102	183	222	2
135°	3	38	79	117	156	2
145°	3	28	56	71	80	2
155°	4	17	29	32	33	2
165°	4	7	13	7	12	1
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P232013

CATALOG NUMBER: FVS4M-4-LD4-35-2HI-PA187-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3562.9	3562.9	3562.9	3562.9	3562.9
2.5°	3617.8	3602.1	3564.8	3573.7	3565.8
5°	3626.6	3595.2	3548.2	3578.6	3582.5
7.5°	3568.8	3578.6	3521.7	3544.3	3535.4
10°	3535.4	3556.0	3509.9	3463.9	3403.1
12.5°	3513.9	3510.9	3401.1	3333.5	3275.6
15°	3474.6	3462.9	3286.4	3205.0	3147.2
17.5°	3422.7	3379.5	3166.8	3066.8	3036.4
20°	3365.8	3247.2	3042.3	2938.4	2901.1
22.5°	3297.2	3123.7	2921.7	2813.8	2752.1
25°	3194.2	2984.4	2789.3	2678.5	2630.5
27.5°	3083.5	2839.3	2645.2	2539.3	2499.1
30°	2952.1	2687.4	2500.1	2416.8	2362.8
32.5°	2802.1	2529.5	2342.3	2261.9	2263.8
35°	2578.5	2350.1	2177.5	2073.6	2071.7
37.5°	2304.0	2117.7	1952.0	1882.4	1877.5
40°	1948.1	1868.7	1671.6	1701.0	1703.0
42.5°	1609.9	1563.8	1447.1	1489.3	1573.6
45°	1360.8	1314.8	1269.7	1337.3	1478.5
47.5°	1153.0	1087.3	1099.1	1222.6	1409.9
50°	966.7	921.6	958.9	1141.2	1358.9
52.5°	781.4	777.5	834.3	1089.3	1330.4
55°	645.1	667.7	753.0	1063.8	1312.8
57.5°	520.6	575.5	689.2	1067.7	1305.9
60°	428.4	506.9	645.1	1103.0	1311.8
62.5°	341.2	454.9	601.0	1136.3	1376.5
65°	291.2	409.8	563.7	1179.5	1336.3
67.5°	265.7	365.7	522.6	1250.0	1221.6
70°	249.0	318.6	489.2	1193.2	1119.7
72.5°	246.1	274.5	463.7	1077.5	1054.0
75°	217.7	238.2	450.0	944.2	952.0
77.5°	179.4	212.8	443.2	834.3	854.9
80°	132.4	187.3	437.3	741.2	762.8
82.5°	100.0	158.8	426.5	661.8	671.6
85°	58.8	133.3	404.9	584.3	594.1
87.5°	28.4	100.0	374.5	505.9	545.1
90°	2.9	78.4	340.2	465.7	454.9
92.5°	2.9	72.6	311.8	403.0	387.3
95°	2.0	71.6	283.3	353.9	340.2
97.5°	2.0	71.6	262.8	315.7	299.0
100°	2.0	70.6	241.2	290.2	271.6
102.5°	2.0	69.6	217.7	273.5	254.9
105°	2.0	67.6	191.2	264.7	247.1
107.5°	2.0	66.7	163.7	255.9	242.2
110°	2.0	64.7	145.1	241.2	239.2



TEST NUMBER: P232013

CATALOG NUMBER: FVS4M-4-LD4-35-2HI-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.0	62.7	129.4	229.4	238.2
115°	2.0	60.8	120.6	219.6	228.4
117.5°	2.0	58.8	114.7	217.7	219.6
120°	2.0	55.9	110.8	221.6	212.8
122.5°	2.0	52.9	105.9	206.9	210.8
125°	2.0	51.0	102.0	183.3	221.6
127.5°	2.0	47.1	97.1	163.7	217.7
130°	2.0	44.1	91.2	147.1	194.1
132.5°	2.0	41.2	86.3	130.4	174.5
135°	2.9	38.2	79.4	116.7	155.9
137.5°	2.9	36.3	73.5	103.9	135.3
140°	2.9	33.3	68.6	92.2	116.7
142.5°	2.9	31.4	62.7	81.4	98.0
145°	2.9	28.4	55.9	70.6	80.4
147.5°	2.9	26.5	50.0	59.8	63.7
150°	2.9	22.5	43.1	51.0	50.0
152.5°	2.9	19.6	36.3	40.2	41.2
155°	3.9	16.7	29.4	32.4	33.3
157.5°	2.9	13.7	24.5	25.5	28.4
160°	3.9	11.8	20.6	18.6	24.5
162.5°	3.9	8.8	17.6	12.7	19.6
165°	3.9	6.9	12.7	6.9	11.8
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)